Investigation in the Field of Lactones and Lactams. Communication 15. Preparations of Polyvinylpyrrolidones Having Different Molecular Weights and Their Physico-chemical Properties SOV/62-59-5-20/40

a method for obtaining biologically active sterile salt water solutions of the preparations has been worked out. There are 2 figures, 4 tables, and 21 references, 12 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 18, 1957

Card 2/2

5(3)

AUTHORS: Sidel'kovskaya, F. P., Zelenskaya, M. G., SOV/62-59-5-21/40
Shostakovskiy, M. F.

TITLE: Investigation in the Field of Lactones and Lactames (Issledovaniye v oblasti laktonov i laktamov). Report 16. N-Methylol-lactames (Soobshcheniye 16. N-Metilollaktamy)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, pp 901-903 (USSR)

ABSTRACT: In this paper the synthesis of N-methylol-lactames of the following structure was investigated: Methylol pyrrolidone (I) $(CH_2)_3CONCH_2OH$ and N-methylol caprolactame (II) $(CH_2)_5CONCH_2OH$, and some of their properties were determined. The authors of the present paper showed in a previous one that in the case of an action of a 30 % formaldehyde solution upon pyrrolidone and caprolactame the following is produced in an alkali medium with a yield of 70 - 90 % (I) and (II):

$$(CH_2)_n CONH + CH_2O \xrightarrow{OH^-} (CH_2)_n CONCH_2OH \text{ (Ref 3).}$$

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Investigation in the Field of Lactones and Lactames . SOV/62-59-5-21/40
Report 16. N-Methylol-lactames

This scheme is to be proved. For this purpose, the reaction of these compounds with thionylchloride

$$OHCH_2\underbrace{N(CH_2)_nCO} + SOCl_2 \longrightarrow ClCH_2\overbrace{NCO(CH_2)_n} + HCl + SO_2$$

was investigated, and the compounds N-chloromethyl pyrrolidine and N-chloromethyl caprolactame were obtained with a yield of ~80 %. The chlorine content of these compounds was determined by titration according to the method developed by Volhardt (table), and it was shown that the chlorine atom in these compounds is easily saponified. Both synthesis and investigation are described separately in the experimental. There are 1 table and 6 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 26, 1957

Card 2/2

5.3610,5.3100

77082
SOV/62-59-12-26/43

AUTHORS: Shorygin, P. P., Shkurina, T. N., Shostakovskiy, M. F., Sidel'kovskaya, F. P., Zelenskaya, M. G.

TITLE: Spectroscopic Investigation of N-Vinyllactams and Anilides

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk 1959, Nr 12, pp 2208-2212 (USSR)

ABSTRACT: Spectra of N-vinyllactams and anilides were studied, and the mutual influence of groups was investigated. Vinyllactams contain the system C=C—N—C=O; the examination of the interaction of atoms and groups can be simplified, to the first approximation, by considering the effect of the N-atom on C=C and C=O bonds, as well as the mutual interaction of the double bonds. Raman and UV-spectra of vinylpyrrolidone, vinylpiperidone, vinylcaprolactam, of various anilides (formanilide, acetanilide, etc.), and of simpler molecules containing an N-atom and a carbonyl group (pyrrolidone, N-butylpyrrolidone, caprolactam, dimethylacetamide were taken. Spectrograph

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Spectroscopic Investigation of N-Vinyllactams and Anilides

77082
SOV/62-59-12-26/43

ISP-51 and PRK mercury lamp were used to obtain Raman spectra, and spectrograph SF-4 to obtain UV-spectra. Spectra of vinyllactams in the double bonds region showed lines characteristic for C=C and C=O bonds. It was found that the presence of the N-atom at the double bond influenced considerably the spectral characteristics: the frequency of the C=O bond was lowered nearly as much as in molecules containing >N—C=O bonds. Values of the extinction coefficient of C=O bond line in vinylpiperidone and vinylcapro lactam were quite high, and close to those of vinylamine. The intensity of C=C line of vinylpyrrolidone was substantially higher, and that of C=O line in all three vinyllactams was many times higher than in compounds with >N—C=O bonds. This anomaly in the intensity of the C=O bond in Raman spectrum was the most peculiar characteristic of vinyllactams which distinguished them from molecules with C=C—N< and >N—C=O bonds. It can be explained by the influence of the C=C bond, through the N-atom, on the carbonyl group (in the bond system C=C—N—C=O). Similar

Card 2/3

S/190/60/002/012/006/019
B017/B055

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P., Kolodkin, F. L.

TITLE: Synthesis and Polymerization of N-Allyl Lactams

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12, pp. 1794-1800

TEXT: The preparation and properties of N-allyl α-pyrrolidone, N-allyl ε-caprolactam and N-allyl α-piperidone are described. N-Allyl ε-caprolactam was prepared by reacting sodium derivatives of the lactams with a small excess of allyl bromide in xylene at 100-130°C. N-allyl ε-caprolactam is a very mobile liquid with a weak amine smell and a density of approximately 1. It is miscible with water, alcohol and ether. The infrared-, ultraviolet-, and Raman spectra of the compound were taken. The results are listed in Tables 1 and 2. The presence of a carbonyl group and a terminal vinyl group was established by these spectra. In their studies on radical-initiated N-allyl pyrrolidone and N-allyl caprolactam polymerization, the authors found that N-allyl lactam is not activated by benzoyl peroxide, but that 5 - 10% azodiisobutyronitrile causes stepwise poly-

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merization with formation of dimers and trimers in low yield. Table 3 gives a survey of the synthesis of N-allyl lactams. The ultimate analysis and properties of N-allyl pyrrolidone (I), N-allyl piperidone (II), and N-allyl caprolactam (III) are given in Table 4. The authors investigated the copolymerization of N-allyl pyrrolidone with vinyl acetate, methyl methacrylate and methyl acrylate, obtaining copolymer yields of up to 69%. The spectroscopic analysis was carried out by B. V. Lopatin and T. N. Shkurina, collaborators at the optical laboratory of the authors' institute. There are 6 tables and 14 references: 5 Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: May 13, 1960

87539
S/079/60/030/012/027/027
B001/B064

15 8107

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P., and Kolodkin, F. L.

TITLE: Sulfides Containing Lactam Cycles

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 12, pp.4108-4109

TEXT: Independently of recent publications (Ref.1), the authors synthesized the following compounds by reacting the sodium salts of lactams with allyl halides: N-allyl-α-pyrrolidone (I), N-allyl-ε-caprolactam (II), and N-allyl-α-piperidone (III) which had hitherto not been described. Their polymerization and the copolymerization of compound (I) with methyl methacrylate and methyl acrylate were studied (Ref.2). The hitherto unknown addition reaction of the mercaptans to the compounds (I) and (II), and to N-vinyl lactams was studied. When these two compounds were heated with equimolar amounts of ethyl mercaptan (IV), n-butyl mercaptan and the ethyl ester of thioglycolic acid (V) in the presence of the dinitrile of azoisobutyric acid (0.5% of the total weight), in the ampoule at 70 - 80°C, compounds of the general formula

S/080/60/033/04/40/045

AUTHORS: Shostakovskiy, M.F., Sidel'kovskaya, F.P., Ogibina, T.Ya.

TITLE: A Refractometric Method for the Quantitative Determination of α-Pyrrolidone in a Mixture With γ-Butyrolactone

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 978 - 980

TEXT: α-pyrrolidone is obtained by the interaction of γ-butyrolactone with ammonia. In the final product there are admixtures of butyrolactone. In the literature there is no method to be found for the determination of α-pyrrolidone in the presence of γ-butyrolactone. For this purpose the refractometric method is proposed. Standard mixtures of α-pyrrolidone in the presence of γ-butyrolactone were prepared and their refractive indices were measured. The data obtained are shown in a table and a graph. It is evident that the refractive index increases with the concentration of pyrrolidone. On reaching a pyrrolidone content of 35 - 40% in the butyrolactone solution the average increment of the refractive index becomes a constant value, being $5.03 \cdot 10^{-4}$ on the average. The method of pyrrolidone determination has an accuracy of ± 1%.

83558

S/020/60/134/001/010/021
B016/B067

5.3610

AUTHORS: Shostakovskiy, M. F., Corresponding Member of the AS USSR, Sidel'kovskaya, F. P., Kolodkin, F. L.

TITLE: On the Interaction Between Lactams and Diacetylene

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 1, pp. 102-105

TEXT: It was the purpose of the present paper a) to produce valuable unsaturated compounds with conjugate systems of multiple bonds in combination with such heteroatoms as oxygen, nitrogen, and sulfur by reacting lactams with diacetylene; b) to compare the activity of acetylene with that of diacetylene in their reaction with lactams. The authors studied the addition of lactams to diacetylene by the example of pyrrolidone. Compared with acetylene, this reaction takes place much more readily at 20-35° C at atmospheric pressure. Sodium salt of pyrrolidone served as catalyst. In benzene medium the process takes place much more rapidly than in dioxane. The isolated crystalline main product (I) of the reaction corresponded to monopyrrolidonyl butenine. Besides, small amounts of an

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On the Interaction Between Lactams and Diacetylene S/020/60/134/001/010/021
B016/B067

isomeric compound (II) were isolated. The IR spectra (taken by T. N. Shkurina and B. V. Lopatin, collaborators at the Optical Laboratory of the authors' institute) excluded the lactim, allene-, or butadiine structures. The authors concluded from an almost complete agreement between the absorption frequencies that the structures of I and II are equal. The hydrogenation product of I is identical with N-n-butyl pyrrolidone (IV). This proves that I has the structure of 1-N-(α-pyrrolidonyl)-1-buten-3-ine. This is proved by the formation of triacetyl benzene in boiling I with 5% H_2SO_4. The most likely cause of the differences between I and II as to the melting temperature, solubility, and lower stability of II is probably the monotropic molecular dimorphism. By hydrolyzing I and II under less rigid conditions, the carbonyl compound formed was converted into 2,4-dinitrophenyl hydrazone (DNPH) by direct addition of 2,4-dinitrophenyl hydrazine (DNP) to the reaction mixture. In this connection, the hitherto unknown 2,4-DNPH $C_{14}H_{15}N_5O_5$ (VI) was isolated. The authors proved that (VI) is a derivative of 1-N-(α-pyrrolidonyl)-1-buten-3-one (V) which is formed as a result of the hydration of 1-N-(α-pyrrolidonyl)-1-buten-3-ine on the triple bond. Ketone V was isolated under mild conditions also without the

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On the Interaction Between Lactams and Diacetylene S/020/60/134/001/010/021
B016/B067

addition of DNP. The degree of conjugation in the molecule is high. The readiness of hydration of the triple bond in N-pyrrolidonyl butenine is probably connected with the interaction between the C=O group of the lactam ring and the vinyl-acetylene chain by means of the nitrogen atom. N-(α-pyrrolidonyl)-1-buten-3-ine adds one thiophenol molecule in the presence of azo-iso-butyric acid dinitrile, and forms 1-N-(α-pyrrolidonyl)-4-phenylthio-1,3-butadiene (VIII). Analytically pure VIII, however, is a mixture of isomers which could not be separated by crystallization. There are 1 figure, 1 table, and 10 references: 6 Soviet, 1 US, and 1 German.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo
Akademii nauk SSSR
(Institute of Organic Chemistry imeni N. D. Zelinskiy
of the Academy of Sciences, USSR)

SUBMITTED: May 4, 1960

SIDEL'KOVSKAYA, F.P., kand. khim. nauk, nauchnyy red.; RYCHEK, T.I., red.; TOKER, A.M., tekhn. red.

[World of giant molecules] V mire bol'shikh molekul. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 123 p. (MIRA 14:7)

(Macromolecular compounds)

SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, M.G.; SHOSTAKOVSKIY, M.F.

Lactones and lactams. Report No. 17: Dienophilic activity of N-vinyl lactams and of the vinyl ether of N-(β-hydroxyethyl) pyrrolidone. Izv. AN SSSR. Otd. khim.nauk no. 1:128-135 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Lactams) (Ether) (Pyrrolidinone)

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, M.G.; SHKURINA, T.N.; OGIBINA, T.Ya.

Lactones and lactams. Report No.18: Reaction of vinyl lactams with hydrogen chloride and alcohols. Izv.AN SSSR Otd.khim.nauk no.3:482-487 Mr '61. (MIRA 14:4)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Lactams)

25260 S/190/61/003/007/004/021
B101/B208

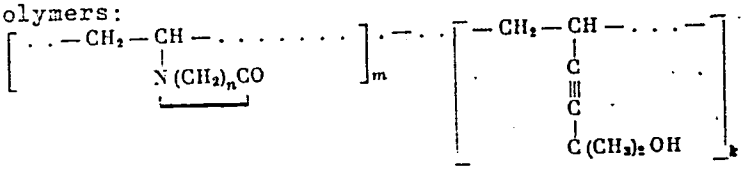
15 8050

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P., Ibragimov, F.

TITLE: Copolymerization of vinyl pyrrolidone and vinyl caprolactam with dimethyl vinyl ethinyl carbinol

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 7, 1961, 976-979

TEXT: The purpose of the present paper was to study the fundamental rules governing the copolymerization of vinyl pyrrolidone (VP) and vinyl caprolactam (VC) with dimethyl vinyl ethinyl carbinol (CARB). It was of interest in this connection that CARB is the raw material for the so-called carbinol glues. The following formula is given for the structure of the copolymers:



Card 1/5 $n = 3; 5.$

For the links of the copolymer which consist of carbinol, also the formation of cyclobutene rings is possible. Copolymerization was performed in ampuls at 60°C for 72 hr. 0.2% azoisobutyric acid dinitrile was added as initiator. The results for VC + CARB are as follows:

initial mixture, mole-% VC	CARB	yield of copolymer, %	composition of the copolymer, mole-% VC	CARB
100	0	76.5	100.0	0
90	10	18.7	65.7	34.3
75	25	19.7	38.1	61.9
50	50	33.6	12.6	87.4
25	75	59.1	4.8	95.1
10	90	60.7	was not determined	
0	100	97.5	0	100.0

The composition of the copolymer was calculated from its nitrogen content. The following was found for VP + CARB:

Copolymerization of vinyl pyrrolidone ...

Initial mixture, mole-%		yield of copolymer, %	composition of the copolymer, mole-	
VP	CARB		VP	CARB
100	0	67.5	100.0	
90	10	13.7	46.2	53.8
75	25	33.4	27.9	72.3
50	50	27.2	9.3	90.7
25	75	61.5	4.5	95.5
10	90	76.8	was not determined	
0	100	87.5		100.0

The following conclusions may be drawn: 1) The copolymers contained more CARB than the initial mixture; 2) the yield increases with increasing CARB content. The copolymers of both types were soluble in acetone and ethanol, insoluble in diethyl ether, petroleum ether, chloroform, benzine and water. Particularly noted is the poor solubility in acetone of the copolymer from 10% VP and 90% CARB. Studying the solubility of the copolymers and homopolymers in some nitrogen-containing solvents:

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25260

Copolymerization of vinyl pyrrolidone ... S/190/61/003/007/[illegible]/021
B101/B208

$CH_3CH\langle^{OCH_3}_{N(CH_2)_3CO}$; $CH_3CH\langle^{OC_3H_7\text{-iso}}_{N(CH_2)_3CO}$; $HOOCCH_2CH_2N(CH_2)_3CO$; $HN(CH_2)_3CO$

gave the following results: 1) [illegible] solubility of the copolymer differs from that of the homopolymers. [illegible] solubility increases with [illegible] VC or VP content of the copolymer. [illegible] is given for the [illegible] viscosity of 1 [illegible] copolymer solutions:

composition of the initial mixture	relative viscosity, [illegible]°C	composition of the initial mixture	relative viscosity, 25°C
homopolymer VC	3.3[illegible]	homopolymer VP	2.515
75% VC 25% CARB	1.1[illegible]	–	–
50% VC 50% CARB	1.5[illegible]	50% VP 50% CARB	1.[illegible]7
25% VC 75% CARB	1.521	25% VP 75% CARB	1.[illegible]
10% VC 90% CARB	[illegible].[illegible]11	10% VP 90% CARB	[illegible].417

The copolymers have [illegible] and film-forming properties which increase with increasing CARB content. There are 2 figures, [illegible] tables, and 2 Soviet-bloc references.

Card 4/5

25260 S/190/61/003/007/004/021
Copolymerization of vinyl pyrrolidone ... B101/B208

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR (Institute of Organic Chemistry imeni N.D. Zelinskiy, AS USSR)

SUBMITTED: August 7, 1960

Card 5/5

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, M.G.

Lactones and lactams. Reprot No.19: Synthesis of ethers and esters of N-(β-hydroxyethyl)pyrrolidinone. Izv.AN SSSR.Otd.khim.nauk no.5: 910-913 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Pyrrolidinone)

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; ROGOVA, E.V.; KOLODKIN, F.L.; IBRAGIMOV, F.

Lactones and lactams. Report 20: Reactions of N-(chloralkyl) lactams with alcohols. Izv.AN SSSR.Otd.khim.nauk no.6:1111-1116 Je '61. (MIRA 14:6)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Lactams) (Alcohols)

26105
S/062/61/000/008/010/010
B117/B206

15 8050

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P., Shapiro, E. S., and Ogibina, T. Ya.

TITLE: β-(N-pyrrolidonyl) ethylvinyl sulfide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1961, 1524-1526

TEXT: The authors investigated the vinylation of the previously prepared N-(β-mercaptoethyl) pyrrolidone (Ref. 1: M. F. Shostakovskiy, F. P. Sidel'kovskaya, E. S. Shapiro, T. Ya. Ogibina, Izv. AN SSSR. Otd. khim. n., 1958, 68). The reaction was carried out in dioxane medium with a 2- to 4-fold acetylene excess. A rotating autoclave (250 ml) fitted with manometer, thermocouple, and automatic temperature control was used. Vinylation proceeds smoothly and with good yield (81.8 %) in the presence of 10 % caustic potash. β-(N-pyrrolidonyl) ethylvinyl sulfide (I) is a colorless, weakly smelling, viscous liquid, practically soluble in any organic solvent. Some of its conversions were investigated: addition of thiols, polymerization, and copolymerization. The addition

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β-(N-pyrrolidonyl) ethylvinyl sulfide

of the thiols is practicable during radical initiation (azoisobutyric acid dinitrile). Corresponding sulfides are formed thereby with good yield. Addition of ethyl-thiol produces 88 % β-pyrrolidonyl ethyl-β-ethyl mercapto ethyl sulfide with boiling point 117-120°C (0.05 mm); n_D^{20} 1.5440; d_4^{20} 1.1222. During heating the synthetized monomer (I) undergoes thermal polymerization. This is accelerated by addition of azoisobutyric acid dinitrile. The new polymer is a transparent, almost colorless, semisolid product. It is soluble in water, alcohol, benzene, and other common organic solvents with the exception of diethyl- and petroleum ether. The monomer (I) does not only form homopolymers, but participates also in the copolymerization with other vinyl monomers. (I) was found to be extremely active. According to its activity, it is similar to acrylonitrile and methyl acrylate. It is of much higher reactivity than vinyl acetate and vinyl pyrrolidone. Polymerization and copolymerization occurred under standard conditions: in ampullas at 60°C within 100 hr in the presence of azoiso butyric acid dinitrile. Diethyl ether was used for the precipitation of polymers and copolymers. Petroleum ether was only used for copolymers of (I) and methyl acrylate.

β-(N-pyrrolidonyl) ethylvinyl sulfide

The results are listed in the Table. There are 1 table and 5 references: 4 Soviet and 1 non-Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: February 22, 1961

Table: Properties of the polymers produced. Legend: 1) Designation; 2) appearance; 3) yield, %; 4) determined S, %; 5) content of (I) links in the copolymer, mole%; 6) solubility; 7) acetone; 8) dimethyl formamide; 9) sulfuric ether; 10) petroleum ether; 11) homopolymer of vinyl sulfide (I); 12) copolymer of methylacrylate and (I); 13) copolymer of (I) and vinyl acetate; 14) copolymer of (I) and vinyl pyrrolydone; 15) copolymer of (I) and acrylonitrile; 16) transparent, elastic mass; 17) transparent, semisolid product; 18) transparent, elastic product; 19) white, hard, brittle. *) for $C_8H_{13}ONS$ 18.72 % S were calculated. **) P = soluble; H = insoluble; P.orp. = restrictedly soluble.

Card 3/4

30166

S/062/61/000/012/007/012
B117/B147

15.8070 2209

AUTHORS: Shostakovskiy, M. F., Khomutov, A. M., and Sidel'kovskaya, F. P.

TITLE: Copolymerization of vinyl pyrrolidone with methyl methacrylate and acrylonitrile

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 12, 1961, 2222 - 2225

TEXT: The copolymerization of N-vinyl pyrrolidone with methyl methacrylate and acrylonitrile in various molar ratios up to radical conversion was examined. Polymerization occurred within 100 hr in the presence of dinitrile of azoisobutyric acid (0.2%) at 60 ± 1°C. During copolymerization of the above monomers, copolymers were formed in which the number of vinyl pyrrolidone groups increased with an increase in concentration of the vinyl pyrrolidone in the reaction medium while the yields slightly decreased. The relative activity of radicals of the examined monomers was studied on the copolymerization with lesser degree of conversion. For the evaluation of this activity, the copolymerization constants r_1 and r_2

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Copolymerization of vinyl pyrrolidone...

were determined with an accuracy of ± 0.02 using the integral equation of Mayo and Lewis (Ref. 3, see below). A comparison of the relative activities showed that methyl methacrylate was more active with respect to vinyl pyrrolidone radicals. To clarify the effect of vinyl pyrrolidone groups on the solubility of copolymers with acrylonitrile groups, the solubility of the copolymers in several organic solvents was examined at room temperature and during heating. It was found that copolymers of vinyl pyrrolidone and methyl methacrylate were soluble in acetone, ethanol, butanol, benzene, dioxane, chloroform, ethyl cellosolve, ethyl acetate, and butyl acetate. Copolymers of vinyl pyrrolidone and acrylonitrile were not soluble in the above-mentioned compounds. They dissolve in pyrrolidone, vinyl pyrrolidone, butyl pyrrolidone, butyrolactone, β-(N-pyrrolidonyl)-ethyl formiate, β-(N-pyrrolidonyl)-ethyl acetate. In the above-mentioned organic compounds, the homopolymer of acrylonitrile is insoluble. There are 2 figures, 5 tables, and 5 references: 2 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: Ref. 1: U. S. Pat. 2667473 (1954); U. S. Pat. 2676949 (1954); U. S. Pat. 2497705 (1950); U. S. Pat. 2713573 (1955); U. S. Pat. 2739588 (1956); R. M. Rike, D. L. Baily, J. Polymer Sci. 22, no. 100, 55

Card 2/3

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.

Medicinal preparations based on polymers. Med. prom. 15 no.3:6-13 Mr '61. (MIRA 14:5)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(POLYMERS) (DRUGS)

SOSTAKOVSKI, M. F. [Shostakovskiy, M. F.]; SIDELKOVSKAIA, F. P. [Sidel'kovskaya, F. P.]

Drugs on the polymer basis. Analele chimie 16 no.4:21-30 O-D '61.

(Drugs) (Polymers and polymerization)

SHOSTAKOVSKIY, M.F.; VORONKINA, T.M.; SIDEL'KOVSKAYA, F.P.

Synthesis of the precursors and fragments of antibiotics. Part 6: Derviatives of lactam-containing mercaptocetic acid. Zhur.ob.khim. 31 no.5:1463-1465 My '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Acetic acid) (Antibiotics)

31192

S/079/61/031/012/011/011
D204/D301

S 3610 1209

AUTHORS: Sidel'kovskaya, F. P., Zelenskaya, M. G., and Shostakovskiy, M. F.

TITLE: The preparation of acrylone - and methacrylone pyrrolidones

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 12, 1961, 4060 - 4061

TEXT: The work was carried out in view of the recent interest in the amides of acrylic and methacrylic acids as potential starting materials for the synthesis of new polymers. $CH_2 = CH.CON(CH_2)_3CO$ (I) and $CH_2 = C(CH_3).CON(CH_2)_3CO$ (II) were prepared in 20 and 40% yields respectively by the action of the appropriate acid chlorides on Na pyrrolidone at $-10^{\circ} \rightarrow -15^{\circ}C$. Propyl gallate was used as an inhibitor and structures of the products were confirmed by infrared spectroscopy. Acrylone pyrrolidone (I) polymerizes very readily, forming a

Card 1/2

The preparation of acrylone ...

hard polymer, insoluble in water or organic solvents, during its preparation and distillation. Monomer (II) polymerizes in 20% yield on heating for 30 hours at 60°C, in the presence of 5% azo-iso-butyric dinitrile, to form a white powder (m.p.~270°C) soluble in dimethyl formamide. Properties of the above two monomers and the preparation of acrylone and methycrylone lactrams based on piperidone and caprolactam are now being investigated.

ASSOCIATION: Institut organicheskoy khimii imeni N. D. Zelinskogo, Akademii nauk SSSR (Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED: July 10, 1961

Card 2/2

VLADIMIROV, Sergey Vladimirovich; ZOLOTAREVA, Klavdiya Aleksandrovna; MASLOVA, Izol'da Petrovna; MIKHAYLOV, Vladimir Vasil'yevich; SIDEL'KOVSKAYA, F.P., kand. khim. nauk, red.; KORNEYEV, S.G., red.; POPOV, V.N., tekhn. red.

[Nonageing polymers]Nestareiushchie polimery. Tambov, Tambovskoe knizhnoe izd-vo, 1962. 78 p. (MIRA 15:11)
(Polymers)

S/062/62/000/001/009/015
B117/B101

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P., and Kolodkin, F. L.

TITLE: Study of lactones and lactams. Communication 21. Addition of mercapto compounds to N-alkenyl lactams

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1962, 155 - 162

TEXT: N-alkenyl lactams are systematically studied in the laboratoriya vinilovykh soyedineniy Instituta organicheskoy khimii AN SSSR (Laboratory for Vinyl Compounds of the Institute of Organic Chemistry AS USSR). In the present paper, the free radical addition of mercaptans to N-alkenyl lactams was studied: N-vinyl pyrrolidone (I), N-vinyl caprolactam (II), N-allyl pyrrolidone (III), N-allyl caprolactam (IV). Ethyl, n-butyl mercaptans, and ethyl mercapto acetate were used for this reaction. Preliminary results of this study have been published (Zh. obshch. khimii 30, 4108 (1960)). The addition of mercaptans to N-vinyl and N allyl lactams was conducted by heating equimolecular amounts of the initial

Card 1/

Study of lactones and lactams...

component in closed ampuls at 70 - 80°C for 18 hrs. Azoisobutyrodinitrile was used as initiator. When adding mercaptans to N-vinyl lactams, β-addition products are obtained, when adding it to N-allyl lactams, γ-alkyl thio derivatives are obtained (70 - 95% yields) : N-β-alkyl thioethyl-α-pyrrolidones, N-β-alkyl thioethyl-ε-caprolactams, N-γ-alkyl thiopropyl-α-pyrrolidones, and N-γ-alkyl thiopropyl-ε-caprolactams. N-vinyl lactams proved to be more reactive than N-allyl lactams. In both groups the activity of caprolactam derivatives was somewhat higher than the activity of other lactam derivatives. The reactivity of mercaptans decreases as follows: $HSCH_2COOC_2H_5 > n\text{-}C_4H_9SH > C_2H_5SH$. With pyrrolidone derivatives. the structure of adducts was proved by a synthesis from N-β-chloro-ethyl pyrrolidone (IX) and the corresponding sodium thiolates. The structure of N-allyl lactam adducts was confirmed by N-β-alkyl thiopropyl pyrrolidones (XVII) and (XVIII) syntheses: The reaction of N-β-chloro propyl pyrrolidone (XVI) with the corresponding sodium thiolates yielded N-β-ethyl thiopropyl-α-pyrrolidone and N-β-carbethoxy-methyl thiopropyl-α-pyrrolidone. The effect of the position of the lactam ring in substituted S-alkyl mercapto acetic acids on the biosynthesis of penicillins was studied with

Card 2/3

Study of lactones and lactams...

N-γ-carbethoxy-methyl thiopropyl lactams (XII, XV), N-β-carbethoxy-methyl thioethyl lactams (VI, VIII), and N-carbethoxy-methyl thiomethyl lactams synthesized later (M. F. Shostakovskiy, T. M. Voronkina, F. P. Sidel'kovskaya, Zh. obshch. khimii 31, 1463 (1961)). After their introduction into the nutrient of Penicillium chrysogenum, the compounds in question proved to cause the formation of new penicillins. As to their activity in fungus fermentation, these compounds may be set up as follows: $\overline{(CH_2)_n - CO - N} - CH_2SR \lessgtr \overline{(CH_2)_n - CO - N} - CH_2CH_2SR \geqq \overline{(CH_2)_n - CO - N} - CH_2CH_2CH_2SR$; $R = CH_2COOC_2H_5$. Pyrrolidone derivatives are more active than caprolactam derivatives, probably due to their more hydrophilic character. The authors thank T. P. Verkhovtseva of the Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute of Antibiotics) for examining derivatives of mercapto acetic acid. Ye. N. Prilezhayeva and E. S. Shapiro are mentioned. There are 1 table and 18 references: 12 Soviet and 6 non-Soviet. The four references to English-language publications read as follows: W. H. C. Rueggeberg, W. A. Cook, USA Patent 2810687 (1957);

Card 3/8 4

N. W. Cusa, H. McCombie, J. Chem. Soc., 1937, 767; A. J. Vogel, J. Chem. Soc., 1948, 1842; L. B. Fieser, J. Amer. Chem. Soc., 46, 2639 (1924).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the [illegible])

SUBMITTED: July 29, 1961

Table. Products of mercaptan addition to N-alkenyl lactams. Legend: (1) Number; (2) structural formula of sulfide; (3) yield, %; (4) boiling point, °C (p mm Hg); (5) determined; (6) calculated.

SIDEL'KOVSKAYA, F.P.; KOLODKIN, F.L.; ANDRIANOVA, G.M.; SHOSTAKOVSKIY, M.F.

Lactones and lactams. Report No.23: Addition of thiophenol to N-alkenyl lactams. Izv.AN SSSR.Otd.khim.nauk no.9:1631-1638 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Benzenethiol) (Lactams)

34991
S/190/62/004/003/011/023
B110/B144

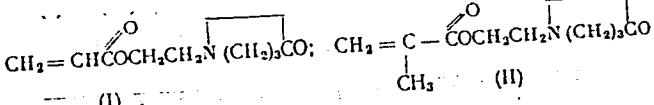
15.8070

AUTHORS: Sidel'kovskaya, F. P., Zelenskaya, M. G., Shostakovskiy, M. F., Lopatin, B. V.

TITLE: New acrylic and methacrylic acid esters

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 3, 1962, 389-392

TEXT: A synthesis of α,β-unsaturated esters with lactam rings



(I) (II)

was developed to produce new mon mers and polymers and to study the effect of the lactam ring on the acrylic ester double bond and on polymer properties. The lactam ring is introduced into saturated esters by the action of N-(β-hydroxyethyl)-pyrrolidone (P) on fatty acids or their acid chlorides. Esterification of acrylic and methacrylic acid (AA, MA) with P is more difficult than that of saturated acids. AA and MA chlorides and P form esters with < 55 % yields (optimum conditions: 1.5 hrs, 70°C, $CHCl_3$,

Card 1/2

New acrylic and methacrylic acid esters

B/196/62/004/003/011/023
B110/B144

and CCl_4 as solvents, soda (or NH_3) to bind HCl) and sometimes additional small amounts of high-boiling products of unknown structure. The esters I and II are mobile liquids soluble in water, ethanol, methanol, acetone, and benzene, saponifiable in alkali, insoluble in ether and petroleum ether. They polymerize at 40°C, but withstand long-time storage at room temperature. IR spectra taken with an NKC-14 (IKS-14) spectrophotometer (NaCl prism) showed two carbonyl groups and one $=CH_2$ double bond. Solid polymers insoluble in organic substances and water, are obtained with azoisobutyric acid dinitrile. With benzoyl peroxide, only polymers from I insoluble in organic substances and water could be produced within 12 hrs at 80-82°C. There are 1 figure, 1 table, and 4 references: 1 Soviet and 3 non-Soviet. The most important reference to English-language publications reads as follows: G. N. Stempel et al. J. Amer. Chem. Soc., 72, 2299, 1950.

ASSOCIATION: Institut organicheskoy khimii AN SSSR im. N. D. Zelinskogo (Institute of Organic Chemistry AS USSR imeni N. D. Zelinskiy)

SUBMITTED: February 23, 1961

Card 2/2

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.

Wonderful properties of polyvinylpyrrolidone. Priroda 51 no.1: 105-108 Ja '62. (MIRA 15:1)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR, Moskva.
(Pyrrolidinone)

KOCHETKOVA, V.A.; BERKENGEYM, G.B.; SIDEL'KOVSKAYA, F.P.

Prolongation of the effect of penicillin and streptomycin with the aid of aqueous solutions of polyvinylpyrrolidone. Antibiotiki 8 no.12:1100-1105 D '63. (MIRA 17:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy onkologicheskiy institut imeni Gertsena i Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; AVETISYAN, A.A.; ZELENSKAYA, M.G.; LOPATIN, B.V.

N-vinylthiopyrolidone. Dokl. AN SSSR 153 no.5:1089-1092 D '63. (MIRA 17:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. 2. Chlen-korrespondent AN SSSR (for Shostakovskiy).

ACCESSION NR: AP4010489 S/0080/64/037/001/0182/0186

AUTHOR: Sidel'kovskaya, F. P.; Ogibina, T. Ya.; Arakelyan, V. G.

TITLE: The quantitative determination of vinyl pyrrolidone by the spectrophotometric method

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 1, 1964, 182-186

TOPIC TAGS: vinyl pyrrolidone, ultraviolet spectrum, extinction factor, pyrrolidone, polyvinyl pyrrolidone, polymerization

ABSTRACT: According to some reports (B. G. Oster & E. H. Immergut, J. Amer. Chem. Soc., 76, 1393, 1954), the unreacted monomer can be determined by use of the ultraviolet spectrum in the vinyl pyrrolidone polymerization process. Additional experiments have been made to develop a method for the quantitative determination of vinyl pyrrolidone and for establishing its quantities in certain reaction mixtures. The results obtained from testing artificial mixtures of vinyl and polyvinyl pyrrolidone in various proportions justify the use of formula (2) for calculating the ultraviolet spectrum:

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ACCESSION NR: AP4010489

$$x = 0.682 \cdot K_p, \qquad (2)$$

where x is the percent of the vinyl pyrrolidone content in the analyzed mixture, and K_p the extinction factor of the water solution of the analyzed mixture. The spectrophotometric method that has been developed for the quantitative determination of vinyl pyrrolidone in mixtures with polyvinyl pyrrolidone is simple, and requires little time (15-20 minutes) and a small quantity of material (5-100 milligrams). It is currently being used for analyzing multicomponent mixtures (samples) in the polymerization reactions of vinyl pyrrolidone. "The authors express their gratitude to Ye. M. Popov for his valuable advice and interest shown in this work, and to V. M. Kosicheva for her assistance in the experiments." Orig. art. has: 5 figures, 3 formulas and 2 tables.

ASSOCIATION: Institut organicheskoy khimii imeni N. D. Zelinskogo, AN SSSR (Institute of Organic Chemistry AN SSSR)

Card 2/3

AVETISYAN, A.A.; SIDEL'KOVSKAYA, F.P.; ISPIRYAN, R.M.

Addition of mercaptans to N-vinyl and N-allythiolactams. Izv. AN SSSR Ser. khim. no.7:1303-1308 Jl '64. (MIRA 17:8)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

L 10825-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pe-4/Pr-4/Pe-4 RPL RM/WW

ACCESSION NR: AP4045425 S/0190/64/006/009/1585/1590

AUTHOR: Sidel'kovskaya, F. P.; Shostakovskiy, M. F.; Ibragimov, F.; Askarov, M. A.

TITLE: Copolymerization of N-vinyllactams with vinylalkyl ethers

SOURCE: Vy*sokomolekulyarn*ye soyedineniya, v. 6, no. 9, 1964, 1585-1590

TOPIC TAGS: copolymer, copolymerization initiator, diazoisobutyronitrile, N-vinyllactam, vinylalkyl ether, N-vinylpyrrolidone, N-vinylcaprolactam, vinylethyl ether, vinylisopropyl ether, vinylbutyl ether

ABSTRACT: Diazoisobutyronitrile was used as the initiator in a study of the copolymerization of N-vinylpyrrolidone (b. p. 94-95C/4 mm, $d_4^{20} = 1.0458$) and N-vinylcaprolactam (b. p. 94-95C/4 mm, $d_4^{20} = 1.029$) with vinylethyl ether, vinylisopropyl ether and vinyl-n-butyl ether. 5 g of monomer mixture, containing 0.1, 0.25, 0.50, 0.75, 0.90, and 1.0 mol of individual monomers, were reacted at 60 ± 1C for 72 hrs with 0.2% of the dinitrile in sealed ampoules gassed with N_2. The process produced 17 copolymers with a yield of up to 85.7% of theory and molecular weights of 550-1500. Nitrogen content, solubility, molecular weight (cryoscopically in benzene), viscosity at 20C in dimethylformamide, and the copolymerization constants (graphically from the Mayo-Lewis integral equation) were determined for the copolymers and conditions were established for the preparation of

Card 1/2

L 10825-65

ACCESSION NR: AP4045425

polymers rich in N-vinyllactam. N-vinylpyrrolidone was found to copolymerize more readily than vinylalkyl ethers; its content in the copolymers reached 88 mol. % as compared to 55 mol. % of the vinylalkyl ether. Orig. art. has: 7 tables.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo (Institute of Organic Chemistry)

SUBMITTED: 10Oct63 ENCL: 00 SUB CODE: OC

NO REF SOV: 008 OTHER: 014

Card 2/2

L 10759-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL/ASD(m)-3 RM/WW

ACCESSION NR: AP4047207 S/0190/64/006/010/1810/1813

AUTHOR: Sidel'kovskaya, F. P.; Askarov, M. A.; Ibragimov, F.

TITLE: Copolymerization of N-vinyllactams with vinylphenyl and vinylcyclohexyl ethers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, 1810-1813

TOPIC TAGS: N-vinyllactam, vinylphenyl ether, vinylcyclohexyl ether, copolymerization, diazoisobutyronitrile, caprolactam, N-vinylpyrrolidone

ABSTRACT: The copolymerization of N-vinylpyrrolidone (VP) and N-vinylcaprolactam (VC) with vinylphenyl ether (VPE) and vinylcyclohexyl ether (VCE) was investigated in the presence of diazoisobutyronitrile. The conditions for synthesis of the new copolymers are described, and the relationship between the mole fractions of the copolymer and the monomer mixture is graphed. The new copolymers are insoluble in water, diethyl and petroleum ethers, and soluble in acetone, benzene, chloroform, carbon tetrachloride and dimethylformamide. An increase in the concentration of N-vinyllactam in the initial mixture resulted in an increased yield of copolymer. Conditions were established for the formation of N-vinyllactam enriched copolymers. Polymer or copolymer yields as high as 61-67% and molecular weights of 800-1490 were obtained under optimal conditions. The solubilities and the

Card 1/2

L 10759-65

ACCESSION NR: AP4047207

monomer reactivity ratios are tabulated. For VP-- VCE, r_1=4.43 ± 0.001, r_2=0.22 ± 0.001; for VP - VCE, r_1=3.84, r_2=0; for VC - VPE, r_1=2.53 ± 0.03, r_2=0.39 ± 0.03. The general reactivity factors were also calculated: for VC, Q = 0.081, e = 1.55; for VPE, Q=0.27, e = 1.43. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry, AN SSSR)

SUBMITTED: 06Dec63 ENCL: 00 SUB CODE: OC

NO REF SOV: 001 OTHER: 007

Card 2/2

SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, N.G.; MINAYEVA, I.I.; SHOSTAKOVSKIY, M.F.

Lactones and lactams. Report No.24: Reactivity of β-pyrrolidonylethyl esters of acrylic acids. Izv. AN SSSR Ser. khim. no.11: 2061-2063 N '64 (MIRA 18:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SIDEL'KOVSKAYA, F.P.; AVETISYAN, A.A.

Isomerization of N-allylthiolactams to N-propenylthiolactams.
Izv. AN SSSR. Ser. khim. no.11:2064-2066 N '64 (MIRA 18:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; MINAKOVA, T.T.

Reaction of 1,1,3-tri-(β-chloroethoxy)propane with some sodium alcoholates. Izv. AN SSSR Ser. khim. no.11:2106-2108 N '64 (MIRA 18:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SHOSTAKOVSKIY, M.F.; MINAKOVA, T.T.; SIDEL'KOVSKAYA, F.P.

Unsaturated aldehydes. Report No.1: Properties of the products of addition of ethylene chlorohydrin to acrolein. Izv. AN SSSR Ser. khim. no.12:2197-2202 D '64 (MIRA 18:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

SIDEL'KOVSKAYA, F.P.; AVETISYAN, A.A.

Rearrangements in the S-allylthiolactam series. Dokl. AN SSSR 157 no.3:632-635 Jl '64. (MIRA 17:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR. Predstavleno akademikom B.A. Kazansim.

SIDEL'KOVSKAYA, F.P.; KOZLIKIN, F.I.

Isomerization of N-allyl lactams to N-propenyl lactams. Izv. AN SSSR Ser. Khim. no.2:371-373 '65.

(MIRA 18:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SHEL'KOVSKAYA, F.F.; KOLODKIN, F.L.; SHIROYAN, F.R.

Synthesis of N-β-hydroxyethyl lactams and their reaction with thionyl chloride. Izv. AN SSSR Ser. khim. no.2:374-376 '65.
(MIRA 18:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SIDEL'KOVSKAYA, F.F.; AVETISYAN, A.A.; SHOSTAKOVSKIY, M.F.

Lactones and lactams. Report No.25: Allylthiolactams. Izv. AN SSSR. Ser. khim. no.4:702-708 '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

MIKHAYLOVA, L.V.; SIDEL'KOVSKAYA, F.P.; [illegible], N.F.

Vinylpyrrolidinone copolymers with allylidene diacetate. Izv. AN SSSR.Ser.khim. no.10:1881-1882 '65. (MIRA 18:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

(A) L 10939-66 EWT(1)/EWA(j)/EWT(m)/EWP(j)/T/EWA(b)-2 WW/JK/RM

ACC NR: AP6002540 SOURCE CODE: UR/0286/65/000/023/0041/0041

INVENTOR: Rogovin, Z. A.; Virnik, A. D.; Sidel'kovskaya, F. P.; Mal'tseva, T. A.; Ibragimov, F.

ORG: none

TITLE: Manufacture of copolymer end products. Class 29, No. 176661

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 41

TOPIC TAGS: graft copolymer, bactericide, copolymer, polymer, synthetic material

ABSTRACT: An Author Certificate has been issued for a method for manufacturing end products with bactericidal properties from copolymers prepared by grafting synthetic polymers (unspecified) to natural polymers, such as cellulose. The method involves treatment of the products with iodine solution. [BO]

SUB CODE: 11, 07 SUBM DATE: 23Jun64/ ATD PRESS: 4170

Card 1/1 UDC: 677 494 7.-13:661.728.3-139

A L 11523-66 EWT(m)/EWP(j)/T RPL WW/RM

ACC NR: AP6001671 SOURCE CODE: UR/0190/65/007/012/2164/2167

AUTHORS: Sividova, S. N.; Avetisyan, A. A.; Kolesnikov, G. S.; Sidel'kovskaya, F. P.; Tevlina, A. S.

ORG: Moscow Chemical-Technological Institute im. Mendeleyev (Moskovskiy khimiko-tekhnologicheskiy institut); Institute for Organic Chemistry, AN SSSR (Institut organicheskoy khimii AN SSSR)

TITLE: Copolymerization of N-vinylthiopyrrolidone with methylmethacrylate and N-vinylpyrrolidone. 59th communication from the series, "Carbon chain polymers and copolymers"

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2164-2167

TOPIC TAGS: polymer, polymerization, copolymerization, methylmethacrylate, polymerization kinetics

ABSTRACT: Data on the monomer N-vinylthiopyrrolidone (VTP), recently synthesized by M. F. Shostakovskiy, F. P. Sidel'kovskaya, M. G. Zelenskaya, A. A. Avetisyan, and B. V. Lopatin (Dokl, AN SSSR, 153, 1089, 1963), were extended by copolymerizing (VTP) with methylmethacrylate and N-vinylpyrrolidone (VP). The copolymerization was carried out at 60C in presence of 1 mole % of initiator, and the copolymerization constants of VTP with methyl methacrylate were found to be: $r_2 = 1.72 \pm 0.09$ and $r_1 =$

Card 1/2 UDC: 66.095.26+678.744+678.746

0.44 ± 0.06, Q_2 = 1.36 and e_2 = -0.12. The corresponding constants for the copolymerization of VTP with VP were found to be: r_2 = 1.50 ± 0.30, r_1 = 0.13 ± 0.02, Q_2 = 1.61 and e_2 = -0.10. The solubility in a number of solvents, the specific viscosity of one g/liter solutions of the polymers in dichloroethane, and the elastic strength of the polymers were determined. The experimental results are presented in tables and graphs (see Fig. 1).

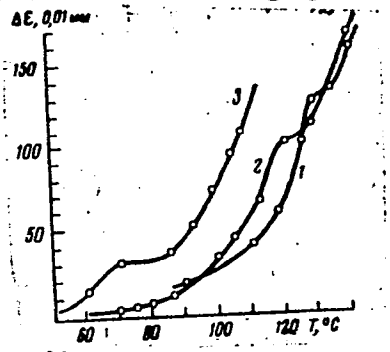


Fig. 1. Thermomechanical properties of the copolymers. (Applied stress 6 kg/cm^2). 1 - VTP and methylmethacrylate in 1:1 mole ratio; 2 - the same copolymer, mole ratio 4:1; 3 - VTP and VP, mole ratio 4:1.

Orig. art. has: 5 tables and 2 graphs.

SUB CODE: 07,11/ SUBM DATE: 02Feb65/ ORIG REF: 003/ OTH REF: 004

L 31562-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6008087 (A) SOURCE CODE: UR/0063/66/011/001/0119/0120

AUTHOR: Ibragimov, A. D.; Virnik, A. D. / Sidel'kovskaya, F. P. / Askarov, M. A.

ORG: Moscow Textile Institute (Moskovskiy tekstil'nyy institut); Institute of Organic Chemistry im. N. D. Zelinskiy (Institut organicheskoy khimii)

TITLE: Synthesis of a cellulose-polyvinylpyrrolidinone graft copolymer

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 11, no. 1, 1966, 119-120

TOPIC TAGS: cellulose, graft copolymer, hydrogen peroxide

ABSTRACT: A cellulose-polyvinylpyrrolidinone graft copolymer was synthesized by using a method proposed by D. I. Bridgeford (Ind. Eng. Chem., Prod. Res. Develop. 1, No. 1, 45, 1962) for the synthesis of other graft copolymers of cellulose. The effect of H_2O_2 concentration, temperature, and reaction time on the content of graft polyvinylpyrrolidinone (PVP) in the copolymer was investigated. It was found that the PVP content of the copolymer increases up to a 0.01% concentration limit of H_2O_2, beyond which the amount of graft PVP decreases. Up to 70C the content of graft PVP increases, but a further rise in temperature causes it to diminish. Both of these phenomena are interpreted in terms of the chain breaking process. The monomer concentration also has a substantial effect on the composition of

UDC: 678.51

Card 1/2

L 23331-66 EWT(m)/EWP(j)/T WW/RM

ACC NR: AP6006978 (A) SOURCE CODE: UR/0190/66/008/002/0247/0250

AUTHORS: Ibragimov, F.; Sidel'kovskaya, F. P.; Askarov, M. A.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, AN SSSR (Institut organicheskoy khimii AN SSSR)

TITLE: Synthesis of a graft copolymer of cellulose and polyvinylcaprolactam

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 2, 1966, 247-250

TOPIC TAGS: cellulose plastic, graft copolymer, redox reaction

ABSTRACT: Investigation of the synthesis of a graft copolymer of cellulose (I) and N-vinylcaprolactam (II) is described as a part of a general effort initiated earlier by F. Ibragimov, A. D. Virnik, F. P. Sidel'kovskaya, M. A. Askarov, and Z. A. Rogovin (ZhVKhO im. Mendeleyeva, 11, No. 2, 1966). This work was carried out to determine the effect of the size and structure of the lactam ring upon the grafting process and the properties of the product. As in previous work, the grafting was performed using H_2O_2-Fe^{2+} redox system. Fabric of viscose staple fiber served as a source of I. The effect of the concentration of H_2O_2 in the system upon the content of grafted II is illustrated in Fig. 1 (the optimal concentration is 0.008%). The effect of the temperature upon the reaction is shown in Fig. 2 (70C is most suitable). The optimal reaction time is 3 hours. The graft copolymer of I and II readily

Card 1/2 UDC: 541.64+661.728+678.746

L 23331-66

ACC NR: AP6006978

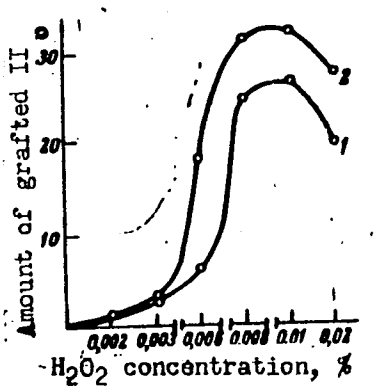


Fig. 1. Effect of H_2O_2 concentration upon the amount of grafted II (% of the copolymer weight). Graft conditions: ratio 50:1, temperature 70C, time 3 hours. 1 - II = 10%, 2 - II = 15%.

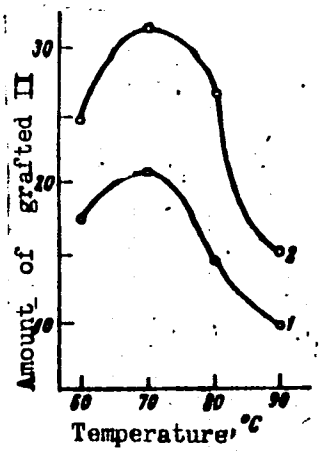


Fig. 2. Effect of temperature upon the amount of grafted II (weight % of copolymer). Graft conditions: ratio 50:1, time 3 hours; $[H_2O_2]$ = 0.008%, 1 - I = 10%, 2 - II = 15%.

absorbs acid dyes and is resistant to light. Orig. art. has: 4 figures.

SUB CODE: 07/ SUBM DATE: 27Feb65/ ORIG REF: 006/ OTH REF: 001

Card 2/2 UVR

ACC NR: AP6025626 SOURCE CODE: UR/0413/66/000/013/0079/0079

INVENTORS: Sidel'kovskaya, F. P.; Kolodkin, F. L.

ORG: none

TITLE: A method for obtaining copolymers of N-vinylpyrrolidone. Class 39, No. 183392 [announced by Institute of Organic Chemistry imeni N. D. Zelinskiy (Institut organicheskoy khimii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 79

TOPIC TAGS: polymer, copolymer, copolymerization, polymerization initiator

ABSTRACT: This Author Certificate presents a method for obtaining copolymers of N-vinylpyrrolidone by initiated copolymerization of N-vinylpyrrolidone and an unsaturated compound. To regulate the molecular weight of the formed polymer, N-allylpyrrolidone is used as the unsaturated compound.

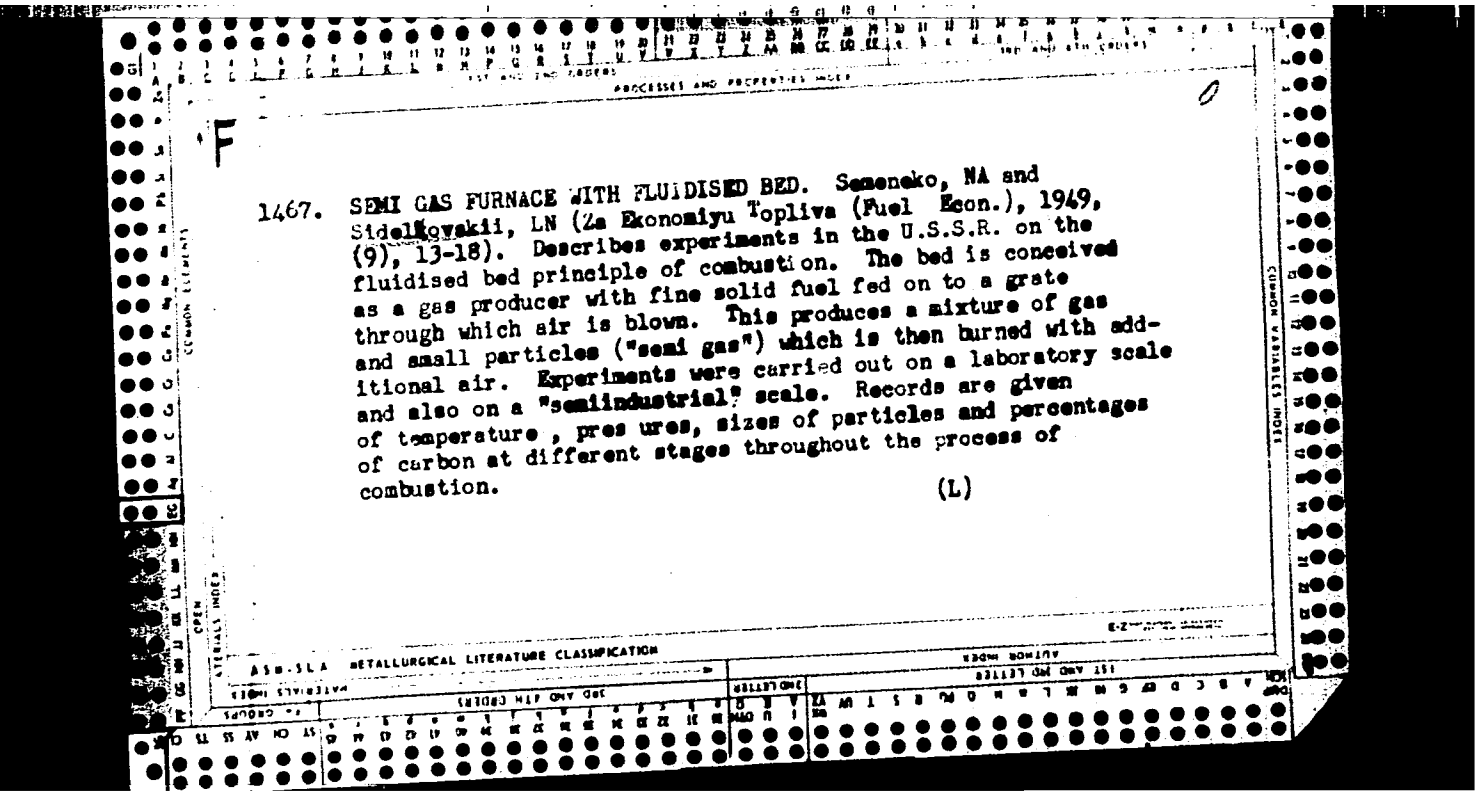
SUB CODE: 11/07 SUBM DATE: 03Mar65

Card 1/1 UDC: 678.746.5-13

SIDEL'KOVSKIY, A.P.

Algorithmical approach to the analysis of educational processes is right. Vop. psikhol. no.5:127-132 S-O '64 (MIRA 18:1)

1. Srednyaya shkola No.3, g. Karachayevsk.



1467. SEMI GAS FURNACE WITH FLUIDISED BED. Semeneko, NA and Sidelkovskii, LN (Za Ekonomiyu Topliva (Fuel Econ.), 1949, (9), 13-18). Describes experiments in the U.S.S.R. on the fluidised bed principle of combustion. The bed is conceived as a gas producer with fine solid fuel fed on to a grate through which air is blown. This produces a mixture of gas and small particles ("semi gas") which is then burned with additional air. Experiments were carried out on a laboratory scale and also on a "semiindustrial" scale. Records are given of temperature, pressures, sizes of particles and percentages of carbon at different stages throughout the process of combustion. (L)

4597. [illegible] FLUIDIZED [illegible] [illegible]. Siiel'kovskii, I.N. (Za Ekon. Topliva (Fuel Econ.), June 1951, [illegible] 26). An experimental fluidized bed furnace has operated satisfactorily on anthracite duff, coke fines, Moscow region coal, Ukrainian brown coal and washery refuse. Plans are now being made for using this type of furnace in [illegible] industry. Line drawings of possible boiler installations are shown. To avoid trouble from slag formation the bed temperature has to be kept below ash fusion point. Unless the moisture content of the fuel is high, this necessitates adding steam or atomized water to the air blast. (L).

AID P - 2764

Subject : USSR/Engineering

Card 1/2 Pub. 110-a - 6/14

Authors : Sidel'kovskiy, L. N., Kand. Tech. Sci., Troyankin, Yu. V., and Shurygin, A. P., Engs.

Title : On the problem of using waste heat of flue gases from industrial furnaces

Periodical : Teploenerg., 9, 32-36, S 1955

Abstract : The wide use of waste boilers installed in the rear of Marten furnaces and heated by flue exhaust gases is reported. The article reports on experiments ensuring a further use of flue gases containing sulphur products SO_2 and SO_3 in waste boilers. Research on conditions (prevention of corrosion, fly ash effect, etc.) enabling an efficient operation of these boilers made in the Moscow Power-Engineering Institute and in one of the chemical kombinats is discussed in detail. Different types of steel were used, and results are given in curves. Some

Teploenerg., 9, 32-36, S 1955

AID P - 2764

Card 2/2 Pub. 110-a - 6/14

recommendations, i.e. maintaining the tube walls temperature above the dew point but not over 250°C, the use of aluminum carbon steel for conduits, and the installation of an intermediate heat carrier are made.

Institution : Moscow Power Engineering Institute

Submitted : No date

Sidel'kovskiy, L. N.

137-58-5-8794

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 9 (USSR)

AUTHOR: Sidel'kovskiy, L. N.

TITLE: Utilization of the Sensible Heat of Gases in High-output Roasting of Sulfur-bearing Raw Materials (Vysokoproizvoditel'nyy obzhig serosoderzhashchego syr'ya s ispol'zovaniyem fizicheskogo tepla gazov)

PERIODICAL: Tr. Tekhn. soveshchaniya po obzhigu materialov v kipyashchem sloye. Moscow, Metallurgizdat, 1956, pp 106-117

ABSTRACT: A description of laboratory experiments utilizing quartz tubing 25 mm in diameter and containing a 25-g batch of substance. Larger-scale experiments were conducted in a reactor of 185x185 mm cross section in the center, 60x60 mm on the bottom, and 525x525 mm on top. The pyrite being roasted contained 39-42 percent S, 2-6 percent C, and consisted of a mixture of particles the size of which ranged from 0.06 mm to 3 mm. Air, in a proportion of 1.8-2.5 m^3 per kg of pyrite, was forced through a screen into the bottom section of the reactor. The gas contained 10-14 percent SO_2 and 3-4 percent CO_2. 93-95 percent of S was burned. Experiments were conducted in an effort to

Card 1/2

137-58-5-8794

Utilization of the Sensible Heat of Gases (cont.)

utilize the heat energy of roasting gases the temperature of which reached 800-850°C. The temperature of heating surfaces must not be below the dew point of H_2SO_4 (250-280°) which is contained in the gases, i.e., it is necessary to obtain a vapor pressure of approximately 40 at. Even boiler tubes made of stainless steel corrode rapidly when the parameters of the steam are small. A version is proposed in which heat is utilized by means of an intermediate organic heat-carrier with a high boiling point (a mixture of diphenyl-oxide and diphenyl) and in which steam is subsequently generated in a high-performance tubular heat-exchanger.

1 Ores--Processing 2 Gases--Thermal effects A. P.

Card 2/2

Furnace for high-temperature roasting of fine-grained pyrite. F. F. Derevitskii, N. A. Shmentenko, A. P. Shumeiko, L. N. Sidel'kovskii, Iu. L. Balaev, and A. Iu. Maiits. U.S.S.R. 165,612, May 25, 1957.

SEMENENKO, N.A., doktor tekhn. nauk; YURENEV, V.N., inzh.; SIDEL'KOVSKIY, L.N., kand. tekhn. nauk; ANTIPOV, A.V., inzh.

"Thermal calculation of boiler units"(standard method). Reviewed by N.A. Semenenko and others. Teploenergetika 5 no. 5:92-94 My '58. (MIRA 11:7)

1. Moskovskiy energeticheskiy institut.
(Boilers--Tables, calculations, etc.)

KONDAKOV, V.V., doktor tekhn.nauk; RYZHONKOV, D.I.; SIDEL'KOVSKIY, L.N., kand.tekhn.nauk

Process for producing pig iron from pyrite cinders by cyclone-roasting sulfur-containing raw materials. Khim.prom. no.8: 685-688 D '59. (MIRA 13:6)

1. Moskovskiy institut stali i Moskovskiy energeticheskiy institut.
(Cast iron)

SIDEL'KOVSKIY, L.N.; PUSHKARSKIY, S.M.

Cyclon-type unit for making weighting agents for drilling muds.
Biul. tekh. ekon. inform. no.9:16-18 '59. (MIRA 13:3)
(Oil well drilling fluids)

SEMENENKO, Nikolay Aleksandrovich, prof., doktor tekhn.nauk; SIDEL'KOVSKIY, Lazar' Naumovich; YURENEV, Vladimir Nikolayevich; MASLENNIKOV, M.S., retsenzent; SHUMAYEV, F.G., retsenzent; SHUKHER, S.M., red.; LARIONOV, G.Ye., tekhn.red.

[Industrial boiler systems] Kotel'nye ustanovki promyshlennykh predpriiatii. Pod red. N.A.Semenenko. Moskva, Gos.energ.izd-vo, 1960. 391 p. (MIRA 13:11)
(Boilers)

VOL'FKOVICH, S.I.; IONASS, A.A.; MEL'NIKOV, Ye.B.; REMEN, R.Ye.; SIDEL'KOVSKIY, L.N.; TROYANKIN, Yu.V.; SHURYGIN, A.P.; YAGODINA, T.N.

Hydrothermal treatment of phosphates in a cyclone furnace. Khim. prom. no.6:394-399 Je '61. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i insektofungitsidov i Moskovskiy energeticheskiy institut.
(Phosphates)

SIDEL'KOVSKIY, L.N., kand.tekhn.nauk; TROYANKIN, Yu.V., kand.tekhn.nauk; CHICHKOV, V.V.

Study of the corrosion resistance of metals under conditions prevailing in the production of defluorinated fused phosphates. Khim.prom. no.3:209-212 Mr '62. (MIRA 15:4)

1. Moskovskiy energeticheskiy institut.
(Metals--Corrosion)

SIDEL'KOVSKIY, Lazar' Naumovich; SHUKYGIN, Aleksey Petrovich; RUSANOV, A.A., red.; BUL'DYAYEV, N.A., tekhn. red.

[Industrial cyclone systems]Siklonnye energotekhnologicheskie ustanovki. Pod obshchei red. L.N.Sidel'nikovskogo. Moskva, Gosenergoizdat, 1962. 79 p. (MIRA 15:11)
(Smelting furnaces) (Separators (Machines))

SIDEL'KOVSKIY, L.N., kand.tekhn.nauk, dotsent; RUSSO, V.L., inzh.

Use of a fluidized bed for cooling the walls of a cyclone chamber with slag hardened lining. Izv. vys. ucheb. zav.; energ. 5 no.2:73-78 F '62. (MIRA 15:3)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy ognevoy promteplotekhniki.
(Fluidization) (Furnaces)

SIDEL'KOVSKIY, L.N., kand.tekhn.nauk, dotsent; [redacted]YGIN, A.P., kand.tekhn. nauk, dotsent; SIDEL'NIKOV, Ye.A., inzh.

Operation of a furnace with a fluidized bed. Izv.vys.ucheb.zav.; energ. 5 no.11:58-65 N '62. (MIRA 15:12)

1.Moskovskiy ordena Lenina energeticheskiy institut i Novomoskovskiy khimicheskiy kombinat. Predstavlena kafedroy ognevoy promyshlennoy teplotekhniki Moskovskogo ordena Lenina energeticheskogo instituta.

(Furnaces)

SIDEL'KOVSKIY, L.N., kand. tekhn. nauk; TROYANKIN, Yu.V., kand. tekhn. nauk; SHURYGIN, A.P., kand. tekhn. nauk

Study of an industrial cyclone chamber with supply of the raw material through the lower section. Trudy MEI no.48:159-172 '63. (MIRA 17:6)

SIDEL'KOVSKIY, L.N., kand. tekhn. nauk; SHURYGIN, A.P., kand. tekhn. nauk;
PUSHKARSKIY, S.M., inzh.

Use of a cyclone system for obtaining a high-quality weighting compound for drilling mud from pyrite cinders. Trudy MEI no.48: 187-200 '63. (MIRA 17:6)

SIDEL'KOVSKIY, L.N., kand. tekhn. nauk, dotsent; SHCHEVELEV, V.N., inzh.; KUKHANOVICH, A.I., inzh.

Study of laws governing surface erosion in a fluidized bed. Izv. vys. ucheb. zav.; energ. 7 no.7:48-53 Jl '64 (MIRA 17:8)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy ognevoy promyshlennosti i teplotekhniki.

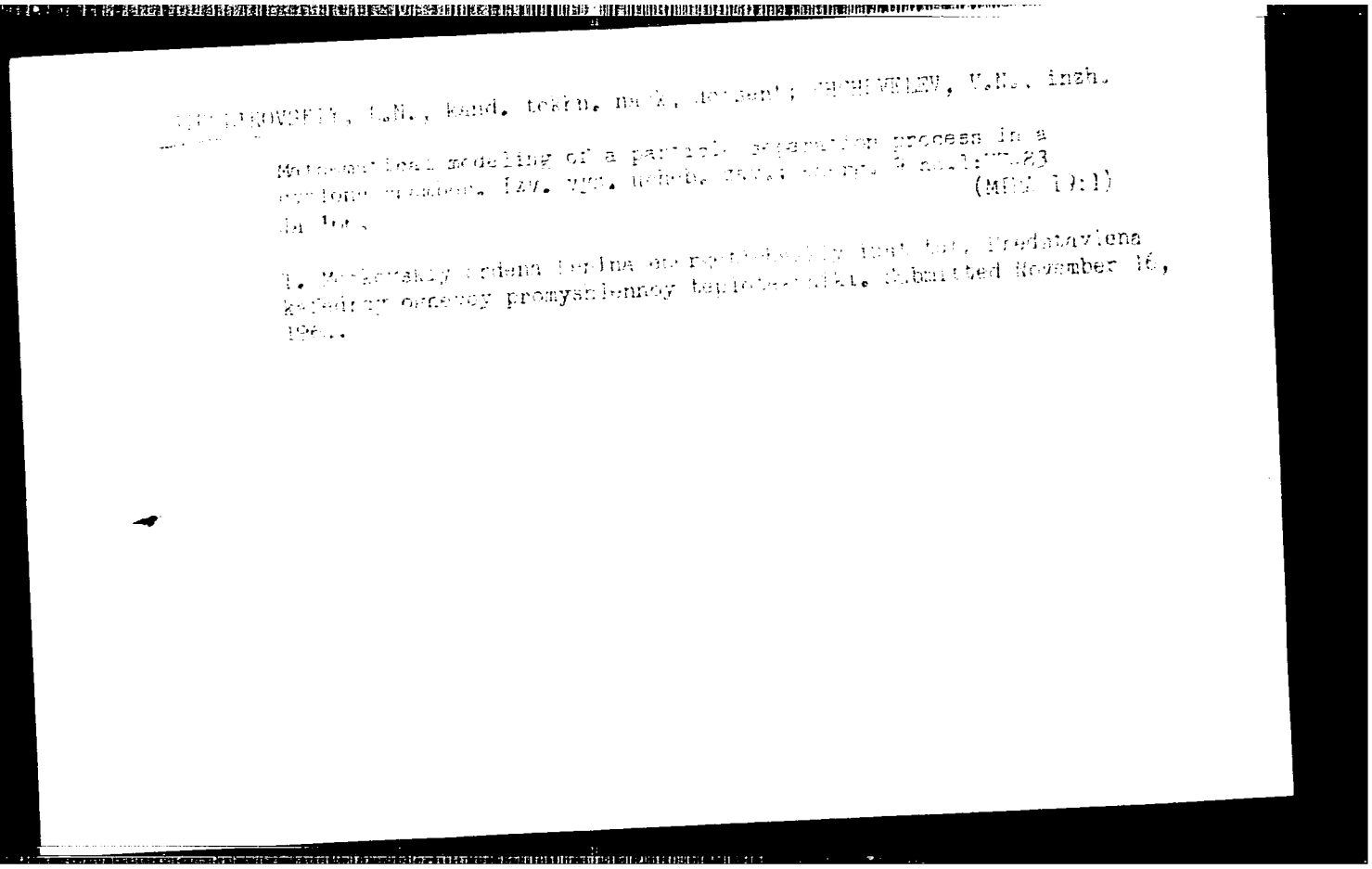
VOL'FKOVICH, S.I.; LORENTS, G.; ZHUKOVA, V.A.; SIDEL'KOVSKIY, L.N.; RUSSO, V.L.; YAGODINA, T.N.

Hydrothermal processing of phosphates in a fluidized bed. Khim.prom. 41 no.6:459-462 Je '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy institut po udobreniyam i insektofungisidam imeni Ya.V.Samoylova; Moskovskiy gosudarstvennyy universitet i Moskovskiy energeticheskiy institut.

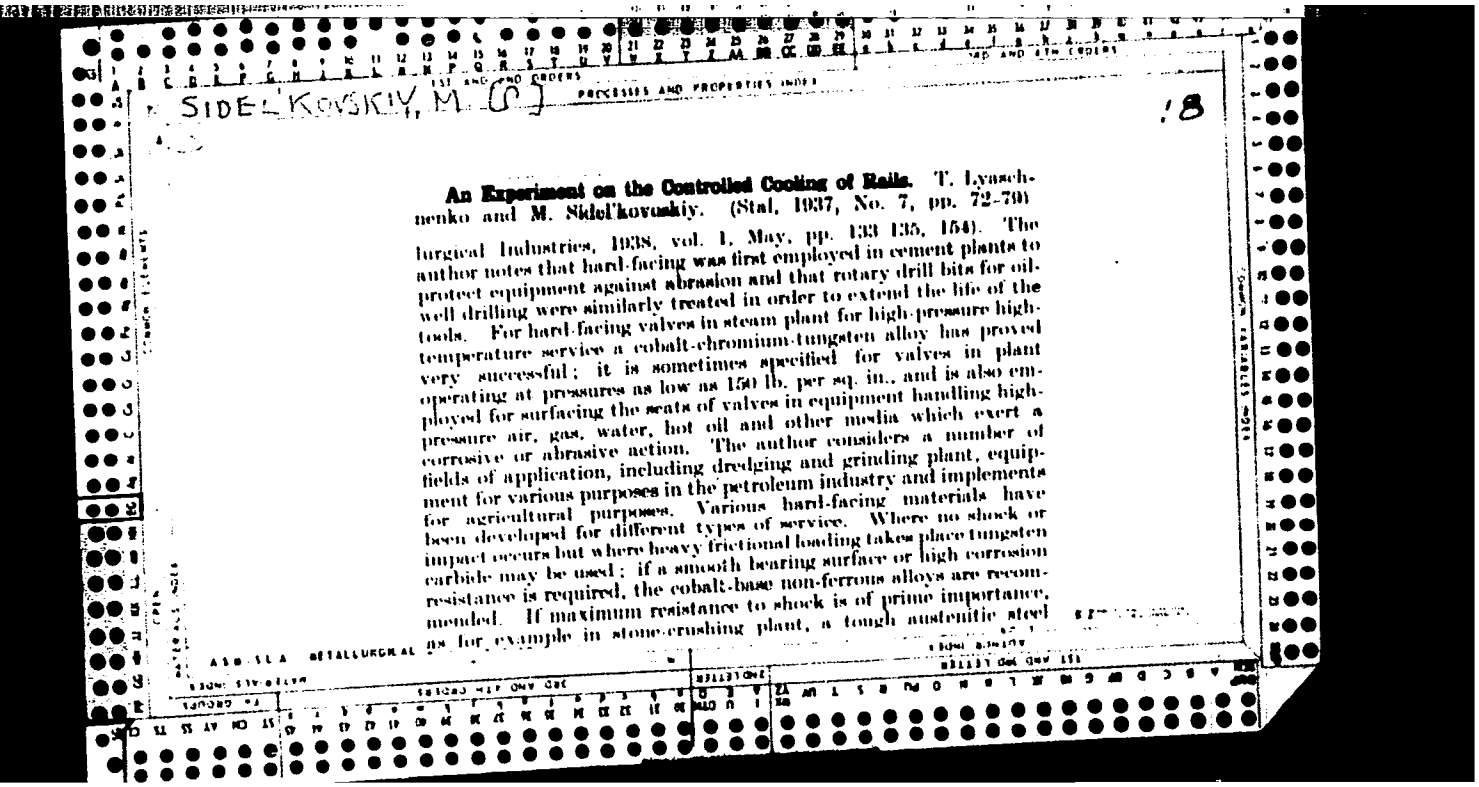
SEMENENKO, N.A., doktor tekhn. nauk; SIDEL'KOVSKIY, L.N., kand. tekhn. nauk; TROYANKIN, Yu.V., kand. tekhn. nauk; SHURYGIN, A.P., kand. tekhn. nauk

Value and prospects for the use of industrial cyclone processes. Prom. energ. 20 no.11:4-7 N '65. (MIRA 18:11)



SIDEL'KOVSKIY, L.N.; kand. tekhn. nauk; SHCHEVELEV, V.N., inzh.;
BOYTSOV, Yu.M., inzh.

Study of temperature fields and heat currents in a cyclone chamber. Prom. energ. 21 no. 1:44-48 Ja '66 (MIRA 19:1)



SIDEL'KOVSKIY, M. G.

18

An Experiment on the Controlled Cooling of Rails. T. Lyashchenko and M. Sidel'kovskiy. (Stal, 1937, No. 7, pp. 72-79)

lurgical Industries, 1938, vol. 1, May, pp. 133-135, 154). The author notes that hard-facing was first employed in cement plants to protect equipment against abrasion and that rotary drill bits for oil-well drilling were similarly treated in order to extend the life of the tools. For hard-facing valves in steam plant for high-pressure high-temperature service a cobalt-chromium-tungsten alloy has proved very successful; it is sometimes specified for valves in plant operating at pressures as low as 150 lb. per sq. in., and is also employed for surfacing the seats of valves in equipment handling high-pressure air, gas, water, hot oil and other media which exert a corrosive or abrasive action. The author considers a number of fields of application, including dredging and grinding plant, equipment for various purposes in the petroleum industry and implements for agricultural purposes. Various hard-facing materials have been developed for different types of service. Where no shock or impact occurs but where heavy frictional loading takes place tungsten carbide may be used; if a smooth bearing surface or high corrosion resistance is required, the cobalt-base non-ferrous alloys are recommended. If maximum resistance to shock is of prime importance, as for example in stone-crushing plant, a tough austenitic steel

SIDEL'KOVSKIY, M.P.; SHUM, B.M.; FRADIN, M.D.; TSILEVICH, I.Z.; BUL'SKIY, M.T.; YASHCHENKO, V.A.; KARPOV, G.D.

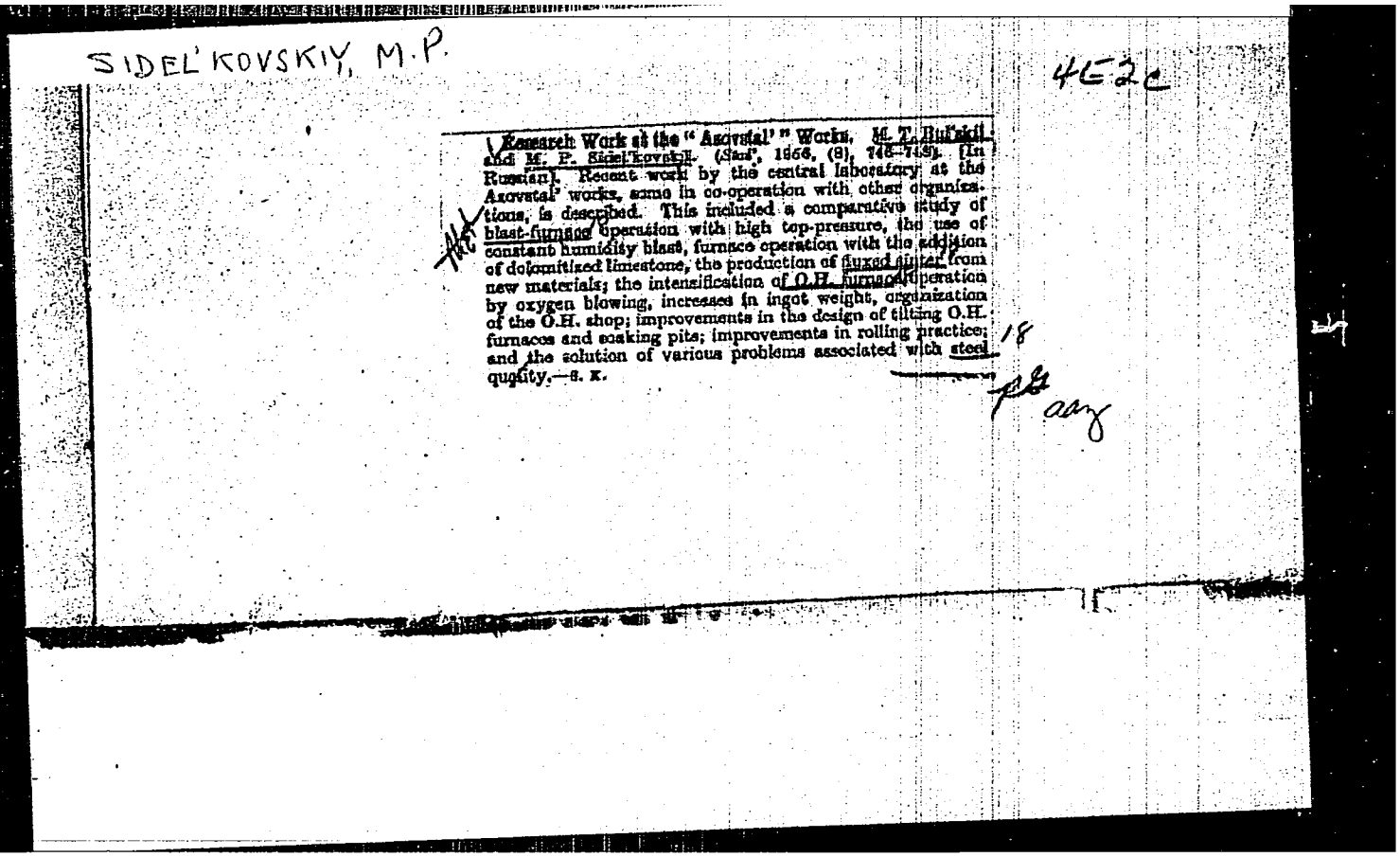
[Improvement of rolling-mill technology on the basis of advanced experience] Usovershenstvovanie tekhnologii v prokatnykh tsekhakh na baze peredovogo opyta. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 306 p. (MLRA 7:3)
(Rolling mills)

Evaluation B-R0261

SIDEL'KOVSKIY, M. P.

SIDEL'KOVSKIY, M. P.: "The effect of arsenic on the properties of rail steel." Min Railways USSR. All-Union Sci Res Inst of Railroad Transport. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

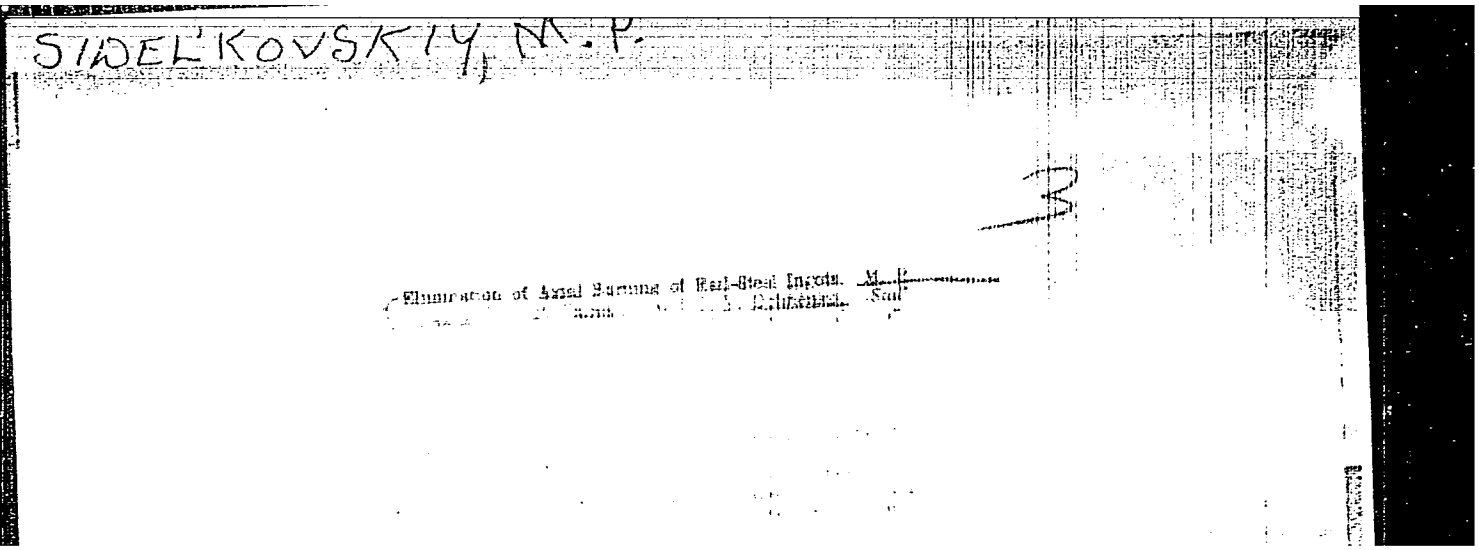


SIDEL'KOVSKIY, M.P.

4E2e

Research Work at the "Azovstal'" Works. M. T. Bulakhil and M. P. Sidel'kovskii. (Stal', 1956, (8), 748–749). [In Russian]. Recent work by the central laboratory at the Azovstal' works, some in co-operation with other organizations, is described. This included a comparative study of blast-furnace operation with high top-pressure, the use of constant humidity blast, furnace operation with the addition of dolomitized limestone, the production of fluxed sinter from new materials; the intensification of O.H. furnace operation by oxygen blowing, increases in ingot weight, organization of the O.H. shop; improvements in the design of tilting O.H. furnaces and soaking pits; improvements in rolling practice; and the solution of various problems associated with steel quality.—S. K.

18



KAZARNOVSKIY, D.S., kandidat tekhnicheskikh nauk; RAVITSKAYA, T.M., kandidat tekhnicheskikh nauk; SIDEL'KOVSKIY, M.P., inzhener; TARASOVA, L.P., inzhener.

Properties of open-hearth steel smelted with use of oxygen. Stal'17 no.2:152-157 F '57. (MLRA 10:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov i zavod "Azovstal'".

(Steel--Testing) (Oxygen)

SHNEYEROV, Ya.A.; LEPORSKIY, V.V.; KAZARNOVSKIY, D.S.; KOTIN, A.G.; KURMANOV, M.I.; SUKACHEV, A.I.; SLADKOSHTEYEV, V.T.; BUL'SKIY, M.T.; SVIRIDENKO, F.F.; SIDEL'KOVSKIY, M.P.; KOZHEVNIKOV, I.Yu., red.; BORODAVKIN, M.L., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Converting phosphorous cast iron in open-hearth furnaces] Peredel fosforistykh chugunov v martenovskikh pechakh. Moskva, Gos. nauchno-tekhn. izd-vo po chernoi i tsvetnoi metallurgii, 1961. 256 p. (MIRA 14:8)

(Open-hearth process)

L 28479-66 EWT(m)/EWA(d)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6010137 SOURCE CODE: UR/0133/66/000/003/0253/0257 57 B

AUTHOR: Sidel'kovskiy, M. P. (Candidate of technical sciences); Tyurin, Ye. I. (Candidate of technical sciences); Danilin, V. I. (Candidate of technical sciences); Frantsuzov, S. N. (Engineer); Sinolitskiy, K. A. (Engineer); Stromova, R. P. (Engineer); Antipova, K. I. (Engineer); Selivanov, V. M. (Engineer); Petrov, B. S. (Engineer)

ORG: Volgograd Scientific Research Institute of Machine Building Technology (Volgogradskiy n.-i. institut tekhnologii mashinostroyeniya); Krasnyy Oktyabr' Plant

TITLE: Effect of treatment with minute amounts of boron on the properties of Kh23N18 chromium-nickel steel 16 21 14

SOURCE: Stal', no. 3, 1966, 253-257

TOPIC TAGS: stainless steel, boron, chromium steel, nickel steel, metal melting, weldability, metal scaling / Kh23N18 Cr-Ni stainless steel

ABSTRACT: This effect was investigated for 12 laboratory melts and 45 industrial melts of Kh23N18 stainless heat-resistant chromium-nickel steel (0.08-0.13% C, 1.44--1.82% Mn, 0.20-0.47% Si, 22.05-24.30% Cr, 18.48-19.24% Ni, 0.013-0.033% P, 0.006--0.020% P).(The industrial melts contained 0.18-0.29% Cu.) Boron was added to the laboratory melts in the form of 28% ferroboron prior to tapping, and to the industrial

UDC: 66.046.51+546.27:669.15 — 194.669.24'25

Card 1/2

SIDELKOVSKIY, YE. P.

Measurement of Specific Load of a Luminophore in Luminescent Lamps by the Objective Method

The specific load of a luminosphore, i.e., the amount by weight per 1 sq cm of surface, affects the light intensity and color of luminescent emission. The specific load was evaluated by passing through it a narrow light beam of the incandescent lamp and recording the beam by Se photocell. The optimum luminescence of the lamp was found at a specific load of 2.5 ± 0.5 mg/ cm^2. (RZhFiz, No. 8, 1955) Sb. Materialov po Vakuumnoy Tekhnike, No. 6, 1954, 25-33.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

SIDEL'KOVSKIY, Ye.P., inzhener.

Measuring the chromaticity and brightness of luminophor radiation by means of a photoelectric colorimeter. Svetotekhnika 2 no.5:21-22 S '56. (MLRA 9:11)

1. Moskovskiy elektrolampovyy zavod.
(Luminescent substances) (Colorimetry)